UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 June 2008*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-24* is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-24* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-24 are presented for examinations.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 1 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by

Karp et al. (US Pat No. 7,032,222 hereinafter Karp).

4.   Regarding claim 1, Karp teaches a method of processing requests to access

computing resources (abstract), comprising:

        restricting processing of resource acquisition requests when a number of

resources in use is within a first predetermined amount of a maximum number of

available resources (Fig 2, wherein the request selectively restricted if resource use is

between the soft limit and the hard limit, i.e. within a first predetermined amount; col 3

lines 33-43, wherein the hard limit is a resource limit for a single user and would

inherently be lower than the maximum number of available resources since there are

multiple users).

5.   Regarding claim 14, it is the computer readable medium claim of claim 1 above.

Therefore, it is rejected for the same reasons as claim 1 above.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 2-13, and 15-24 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Karp et al. (US Pat No. 7,032,222) in view of Richardson (US Pat No.

5,748,892).

8.   Regarding claim 2, Karp does not teach that the resource acquisition requests

include:

        local resource acquisition requests generated by at least one local file system for

access to local storage and

        network resource acquisition requests generated by at least one network file

system for access to remote data via a network.

9.   While, Karp does teaches a generalized system for allocating the resources (such as storage) to all the users of the system, Karp does not teach local and networked requests. Richardson teaches a method for controlling data in a networked environment having client (local) and server (network) nodes.

10.   It would have been obvious to one of ordinary skill in the art at the time of the invention to include resource acquisition requests being generated by a local file system and a network file system. One would be motivated by the desire to apply Karp's teachings to the managing of storage resources on local and networked environments.

11.   Regarding claim 3, Karp further teaches wherein the maximum number of available resources represents the available resources for the network resource acquisition requests and in addition, a local reserved number of the resources are available for the local resource acquisition requests (col 3 lines 3-4), and

wherein said restricting applies an enforcement limit, smaller than the maximum number of available resources by the first predetermined amount, to the network resource acquisition requests (col 3 lines 16-17, wherein a soft limit is applied to each user).

12.   Regarding claim 4, Karp teaches wherein each network file system has a soft limit for executing the network resource acquisition requests (col 3 lines 16-17, wherein a soft limit is applied to each user).

13.   However, Karp does not teach holding a first network resource acquisition request in a first file system queue if execution of the first network resource acquisition request would cause the enforcement limit to be exceeded and the soft limit for a first network file system that generated the first network resource acquisition request has been exceeded.

14.   It would have been obvious to one of ordinary skill in the art at the time of the invention, to place the network resource acquisition in a file system queue. One would be motivated by the desire to store pending requests that have not yet been granted.

15.   Regarding claim 5, Karp teaches does not explicitly teach that said holding of the first resource acquisition request and any subsequently received resource acquisition requests for the first network file system is continued until at least one of: the executing resource acquisition requests for the first network file system are below the soft limit, and the first resource acquisition request has been held on the first file system queue longer than a predetermined time period.

16.   Karp does teach the use of a hard limit for each user that enables users to exceed their soft limited under predetermined conditions (col 3 lines 33-35).

17.   It would have been obvious to one of ordinary skill in the art at the time of the invention, that the next queued request would be processed once an available resource is free. It also would have been obvious to process a queued request that has been held longer than a predetermined time period. One would have been motivated by the desire

to increase the efficiency of the system by processing requests if there are available

resources as indicated by Karp (col 3 lines 35-38).

18.   Regarding claim 6, Karp does not teach that upon completion of execution of

each of the resource acquisition requests, initiating execution of a longest held resource

acquisition request in a corresponding network filesystem queue if the corresponding

network filesystem queue is not empty.

19.   It would have been obvious to one of ordinary skill in the art at the time of the

invention, that the next queued request would be processed once an available resource

is free. One would be motivated by the desire to process the requests in a FIFO

manner.

20.   Regarding claim 7, Karp teaches flushing the network resource acquisition

requests related to a new network resource acquisition request if the maximum number

of available resources are in use when the new network resource acquisition request is

received (col 1 lines 45-48, wherein new users are locked out when all the resources

are already allocated).

21.   Regarding claim 8, Karp and Richardson do not teach holding the new network

resource acquisition request and any subsequently received network resource

acquisition requests in a global wait queue until the number of resources in use is less

than the maximum number of available resources.

22.   It would have been obvious to one of ordinary skill in the art at the time of the

invention, to utilize a global wait queue. One would be motivated by the desire to keep

track of pending requests.

23.   Regarding claim 9, Karp and Richardson do not explicitly teach repeating said

flushing of the network resource acquisition requests, until the number of resources in

use is less than the maximum number of available resources by at least the second

predetermined amount.

24.   Karp teaches that new requests would be locked out when all the resources are

already allocated (col 1 lines 45-48). It would have been obvious to one of ordinary skill

in the art at the time of the invention, to repeatedly flush or prohibit new requests from

processing if the requisite resources were not available.

25.   Regarding claim 10, Karp and Richardson do not teach that upon completion of

execution of each of the resource acquisition requests, releasing the new and any

subsequently received network resource acquisition requests in the global wait queue, if

the number of resources in use is less than the maximum number of available

resources by at least the second predetermined amount.

26.   It would have been obvious to one of ordinary skill in the art at the time of the

invention, that any queued requests would be processed if the required resources were

available.

27.   Regarding claim 11, Karp and Richardson do not explicitly teach that said initiating execution of the longest held resource acquisition request in the corresponding network filesystem queue is not performed until the executing resource acquisition requests generated by a corresponding network filesystem are below the soft limit by a third predetermined amount.

28.   It would have been obvious to one of ordinary skill in the art at the time of the invention, that the system would only allow the executing of the request if there was some extra capability of the system to handle the request. One would be motivated by the desire to not overload the system.

29.   Regarding claim 12, Karp and Richardson do not teach that the computing resources are handles providing access to data storage for the local and network file systems.

30.   Karp teaches a generalized method for handling resource requests. It would have been obvious to one of ordinary skill in the art at the time of the invention, to include handles for providing access to data storage for the local and network file systems. One would be motivated by the desire to extend the teachings of Karp.

31.   Regarding claim 13, Karp teaches that at least one of the maximum number of available resources, the enforcement limit, the soft limit and the first, second and third predetermined amounts are configurable by a user (col 3 lines 22-23).

32.   Regarding claims 15-24, they are the computer readable medium and system

claims of claims 1-13 above. Therefore, they are rejected for the same reasons as

claims 1-13 above.

Response to Arguments

33.   Applicant's arguments filed 06/13/2008 have been fully considered but they are

not persuasive.

34.   Applicant argues on pg 8 of Remarks regarding Claim 1:

        "It is submitted that there is no way the "hard limit of Karp is equivalent to the first

predetermined amount" recited in claim 1 as asserted in the Office Action. Rather, the

"hard limit" in Karp et al. is a maximum for a single user and no suggestion has been

found in Karp et al. that this is a "within a first predetermined amount of a maximum

number of available resources" (claim 1, last line) for all users which is what would be

required to meet the limitations in claim 1, since the "high watermark" in Karp et al.

represents a maximum number of available resources for all users."

35.   Examiner disagrees. Karp describes a soft and hard limit that is set for each

individual user (col 3 lines 28-43). In Karp, it is clear that the hard limit is a value below

the maximum number of available resources since the hard limit is set per user and the

system of Karp has multiple users. As a result, if resource use falls between the soft

and hard limit (i.e. within a first predetermined amount of a maximum number of

resources), processing of the resource request is restricted.

36.   Applicant argues further on pg 8 of Remarks regarding Claim 1:

"Furthermore, none of the tests in blocks 102, 106 and 110 of Fig. 2 in Karp et al.

determines whether "a number of resources **in use** is within" … any predetermined

value, because the amount of resources in each of the tests in Karp et al. "includes the

request 200" (column 4, line 12). In blocks 102 and 106 of Fig. 2 in Karp et al. the "soft

limit" and "hard limit" are respectively compared to the total allocation for a single user

after adding the request for additional allocation… what is compared with this amount is

not "a number of resources in use," nor is "a number of resources in use" compared

with the "hard limit" or "high watermark" of Karp et al."

37.   Examiner disagrees. According to Karp, a process of restricting results when

resource use occurs between the soft and hard limits (Fig 2). While Applicant is correct

in stating that the resource manager includes the request 200 in making a determination

about future resource use, this assertion is inapposite to the issue at hand. As argued

above, Karp clearly teaches a method of *selectively* restricting processing of resource

acquisition requests *using a high watermark* when a number of resources in use is

within a first predeterminined amount of a maximum number of available resources,

such as between a soft and hard limit.

Conclusion

38.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric C. Wai whose telephone number is 571-270-1012. The examiner can normally be reached on Mon-Thurs, 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng - Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/   /Eric C Wai/
Supervisory Patent Examiner, Art Unit 2195   Examiner, Art Unit 2195